

**TECHNICAL REVIEW DOCUMENT**  
**for**  
**RENEWAL of OPERATING PERMIT 99OPJE221**

Allied Waste Systems of Colorado, LLC.  
Jeffco/Foothills Landfill  
Jefferson County  
Source ID 0590113

Prepared by Lisa Clarke  
December 2008

**I. Purpose:**

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewed operating permit proposed for this site. The original Operating Permit was issued January 1, 2001, and expired on January 1, 2006. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted December 9, 2004. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

**II. Description of Source**

The Jeffco/Foothills Landfill is classified as a municipal solid waste landfill, which falls under the Standard Industrial Classification 4953. This facility is located at 8900 Highway 93, Golden, Jefferson County, Colorado. This facility is located in the Denver Metro Area. The Denver Metro Area is classified as attainment/maintenance for particulate matter less than 10 microns in diameter (PM<sub>10</sub>), 1-hr ozone/VOC, and carbon monoxide (CO). Under that classification, all SIP-approved requirements for PM<sub>10</sub>, VOC, and CO will continue to apply in order to prevent backsliding under the provisions

of Section 110(l) of the Federal Clean Air Act. The Denver Metro Area is classified as non-attainment for ozone and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.16. There are no affected states within 50 miles of the plant. The following Federal Class I designated area is within 100 kilometers of the plant: Rocky Mountain National Park and Eagles Nest National Wilderness Area.

This facility is a municipal waste landfill. Decomposing waste encapsulated within the landfill produces a gas by-product that is primarily composed of methane and carbon dioxide. Landfill gas (LFG) is emitted primarily through two sources. LFG can be emitted as fugitive gas through cover soils or through a LFG collection and control system (GCCS). The GCCS is installed to control LFG migration. Collected LFG is sent to a flare for destruction. During its operation the flare generates various combustion by-products that are emitted into the atmosphere. Currently, landfill gas from twenty wells is directed to the flare. Landfill gas from eight wells is collected, and controlled with a separate carbon adsorption system (CAS). Particulate emissions are generated from construction and operation of the landfill, which includes vehicle traffic on paved or unpaved roads and the handling of soil cover material.

The summary of emissions that was presented in the Technical Review Document (TRD) for the original permit issuance has been modified to reflect the most recent emission factors and emission estimates (based on historic waste acceptance rates).

**Facility-wide emissions are outlined below:**

Pollutant	Potential-to-Emit (tons/yr)	Actual Emissions 2005 (tons/yr)
PM <sub>10</sub>	2.5	2.6
PM	2.5	2.6
CO	108.4	47.8
NO <sub>x</sub>	5.8	12.0
SO <sub>2</sub>	2.3	2.2
VOC	31.2	2.4
HAPs	12.6	6.2

The potential-to-emit VOC and HAP emissions are calculated from EPA's Landfill Gas Emissions Model (LandGEM). This emission rate is based on the landfill's maximum design capacity, and the control equipment required in NSPS WWW. The actual emissions found in the table above are the emissions reported on the most recently submitted APEN.

Please note that the flare emission factors have changed. The new emission factors were used to estimate the PTE emissions. Actual emissions were estimated using the old emission factors (as reported on the most recent APEN). The table appears to reveal actual emissions in excess of the PTE. However, this is only the result of the use of different emission factors. The Division does not believe that flare emission limits have been exceeded.

### **Compliance Assurance Monitoring (CAM) Applicability**

The landfill gas collection system is equipped with a flare to control VOC and HAP emissions. The potential to emit of the landfill, without controls, does not exceed major source levels and the flare is not subject to CAM.

## **III. Discussion of Modifications Made**

### **Source Requested Modifications**

The source submitted a request on June 27, 2008 to remove the Carbon Adsorption System (CAS) that was installed in 2006. The eight (8) LFG wells that were controlled by the CAS are now connected to the site's flare. The inclusion of these wells will not affect the flare's current permit limits, emissions, or other compliance requirements.

The Division considers this physical change to be a minor modification to the Operating Permit since the wells previously controlled by the CAS will now be incorporated into the entire gas collection and control system (GCCS) and will be subject to equal, if not more stringent, monitoring, recordkeeping, and control requirements.

### **Other Modifications**

In addition to the requested modifications, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

These changes are as follows:

### **Section I - General Activities and Summary**

- In Condition 1.1, the attainment area description was updated. The source description was updated to reflect that now forty-three wells are directed to the flare. Deleted the sentence "Landfill gas from eight wells is collected, and controlled with a separate carbon adsorption system (CAS)."
- Updated Condition 1.5 to be consistent with other current Operating Permits.
- Minor descriptive changes to the Condition 6 Table to reflect the removal of the CAS.

### **Section II - Specific Permit Terms**

## Section II.1: Landfill Gas Generation & Flare

- Corrected Condition 1.2 to limit combustion of landfill gas to 525.6 million cubic feet per year instead of 526,500,000 million cubic feet per year. This is a typographical error that was noticed by the Division.
- Removed Condition 1.3 – Landfill Gas Processing in the CAS – since the CAS is no longer in operation.
- Conditions 1.4, 1.5, 1.6, and 1.7 were changed to 1.3, 1.4, 1.5, and 1.6 respectively to account for the removal of Condition 1.3.
- Updated Condition 1.4 (now Condition 1.3) language accordingly to be consistent with other recently issued Operating Permits.
- Deleted Condition 1.8 – CAS Operating Parameters & Monitoring Procedures – since the CAS is no longer in operation.
- Added Condition 1.7 – State-only Regulation No. 2 odor requirements.

## Appendices

- Appendix B – Removed the word “CAS” from the Table in the Monitoring and Permit Deviation Report – Part 2.
- Appendix C – Removed the word “CAS” from the Annual Compliance Certification Reports table.
- Updated Appendix F with the minor modification changes listed above.
- Appendix G – Deleted due to the removal of the CAS.